

# Preliminary Results

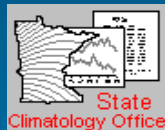
## *Post Storm Survey Season 2: 2008-2009*

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**MNgage**





# Post Storm Survey (PSS)

This survey was created by Matt Taraldsen, a meteorology student at Saint Cloud State University, under the guidance of Earth and Atmospheric Sciences professor Dr. Anthony Hansen, Communication Studies professor Suzanne Stangl-Erkens and meteorologists from the National Weather Service office in Duluth, Minnesota.

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**WAS\*IS**

WORKSHOPS

weather & society \* integrated studies



Changing from what **WAS** to what **IS** the future of integrated weather studies



# Post Storm Survey (PSS)



## Motivation

*“Need a process by which WFO [Weather Forecast Offices] can systematically gather local customer input and local research results ... and turn that information into improved products and services”* Ray Wolf – Science and Operations Officer (Science Operations Officer) NWS WFO Davenport, IA

## Goal

Improve communication & effectiveness of winter weather information and threat by gaining insight into perceptions and decision making processes related to hazardous winter weather.





# Post Storm Survey



## Multiple Online Locations to Access Survey

Partners in the Weather Community post a link to the PSS Homepage on their web pages to obtain wide broad of respondents after a winter event.





# The Post Storm Survey Preliminary Results





# Post Storm Survey Events



## 2008-2009

## 2009-2010

Dec 12	Blizzard	DLH, FGF
Dec 18	Ice Storm	DMX
Dec 19	Lake Effect Snow	DLH
Dec 20	Blizzard	MPX, ABR, FSD, DMX
Dec 20	Winter Storm	FGF, ARX, DLH, MPX
Dec 30	Winter Storm	FGF, DLH, MPX
Jan 3	Winter Storm	DLH, MPX, FGF
Jan 12	Blizzard	FGF, FSD, DMX
Jan 12	Winter Storm	MPX
Jan 12	Wind Chill	DLH
Feb 8	Ice Storm	DLH
April 5	Blizzard	DMX

Dec 8	Blizzard	ARX, DMX, MPX, OMA, TOP, FSD
Dec 8	Winter Storm	ABR, DLH
Dec 24	Blizzard	DLH, OMA, TOP
Dec 24	Winter Storm	ARX, MPX, FGF, DLH
Dec 25	Blizzard	FGF, FSD, ABR
Jan 7	Winter Storm	MPX
Jan 21	Ice Storm	DMX, FSD**
Jan 25	Winter Storm	DLH, FGF**
Jan 25	Blizzard	DMX, FGF, MPX, FSD, ABR**
Feb 9	Winter Storm	MPX, ARX, DMX, FSD, ABR, FGF
Feb 9	Lake Effect Snow	DLH**
Feb 11	Winter Storm	BGM**





# The Survey Questions



1. Where do you get weather information on a regular basis?
2. Where did you get your weather information during the storm?
3. Based on the forecast; what did you feel was the primary weather threat from the storm?
4. Based on the forecast, do you feel that this was a climatology "usual" storm?
5. Based on the forecast, what special preparations did you take for this storm?
6. How did you alter your daily routine during this storm?
7. If you did alter your daily routine, what specifically made you do so?
8. If you did not alter your daily routine, what convinced you alterations were not necessary?

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## Demographic Information:

Gender, Age, Occupation, Commute Time, Education Level,  
Trained Weather Spotter

# Demographic Information

## Age

	2008	2009	2010	Average	2000 Census
<16	2%	1%	1%	1.3%	21.40%
16 - 22	11%	8%	7%	8.7%	13.90%
23-39	29%	38%	38%	35.0%	20.90%
40 - 59	51%	46%	46%	47.7%	34.20%
>60	8%	8%	9%	8.3%	9.60%

## Occupation

	2008	2009	2010	Average
Retired	6%	6%	8%	6.7%
Student	11%	4%	2%	5.7%
Unemployed	3%	5%	4%	4.0%
Industrial	5%	10%	13%	9.3%
Self-Employed	3%	1%	2%	2.0%
Professional	35%	40%	42%	39.0%
Public Service	9%	9%	8%	8.7%
Teacher	25%	23%	21%	23.0%



# Demographic Information

## Gender

	2008	2009	2010	Average	2000 Census
<b>Male</b>	<b>69%</b>	<b>68%</b>	<b>69%</b>	<b>68.7%</b>	49.10%
<b>Female</b>	<b>31%</b>	<b>32%</b>	<b>31%</b>	<b>31.3%</b>	50.90%

## Average Commute

	2008	2009	2010	Average	2000 Census
<b>1 -15 min</b>	<b>55%</b>	<b>52%</b>	<b>55%</b>	<b>54.0%</b>	N/A
<b>15 - 30 min</b>	<b>33%</b>	<b>32%</b>	<b>33%</b>	<b>32.7%</b>	N/A
<b>31 - 59 min</b>	<b>10%</b>	<b>14%</b>	<b>10%</b>	<b>11.3%</b>	N/A
<b>60+ min</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3.0%</b>	N/A

## Are you a weather spotter?

	2008	2009	2010	Average	2000 Census
<b>Yes</b>	<b>24%</b>	<b>22%</b>	<b>28%</b>	<b>24.7%</b>	N/A
<b>No</b>	<b>76%</b>	<b>78%</b>	<b>72%</b>	<b>75.3%</b>	N/A

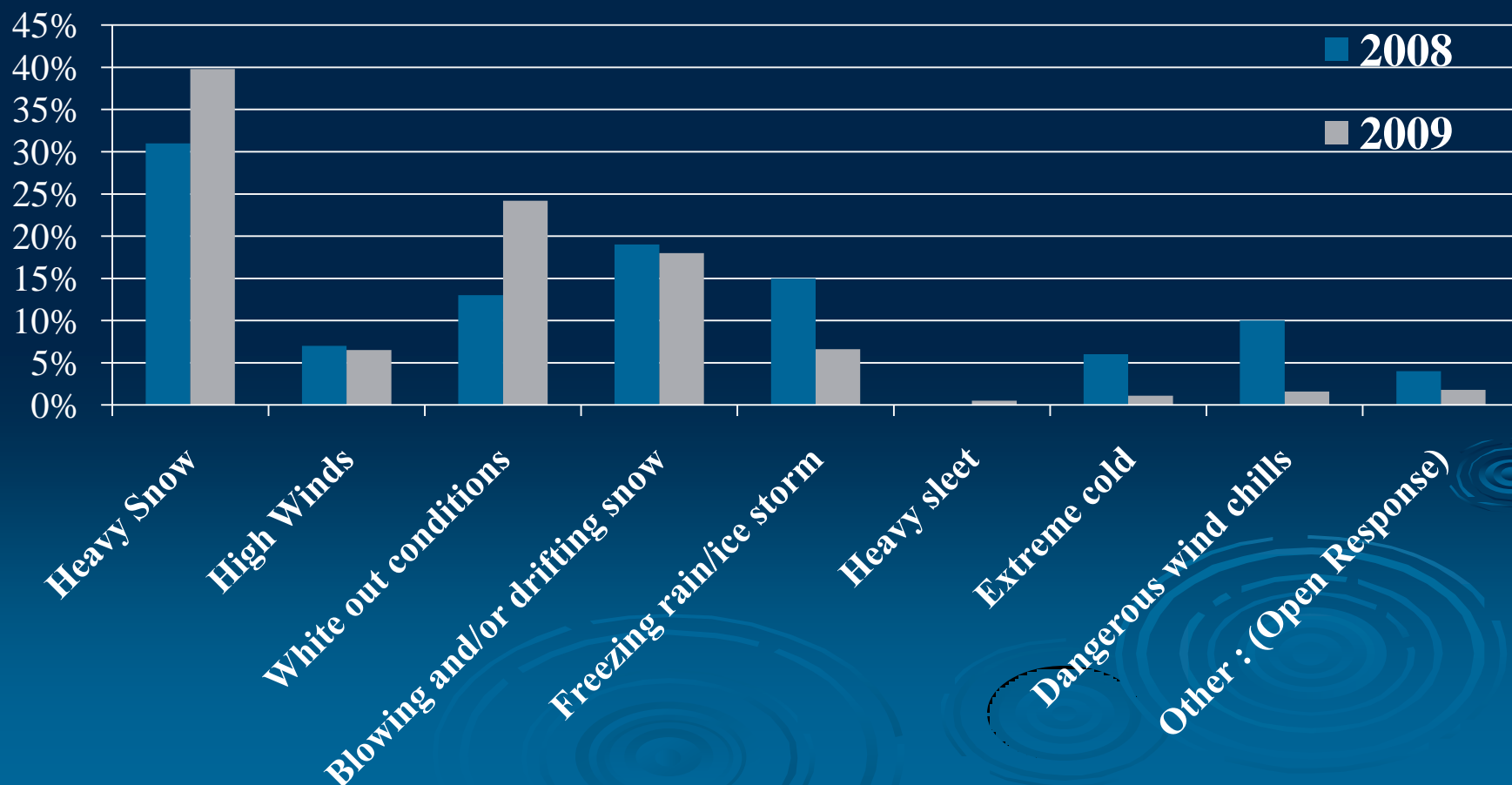


# Survey Responses

*\* Combined responses from all events\**



## 3. Based on the forecast, what did you feel was the primary weather threat from the storm?



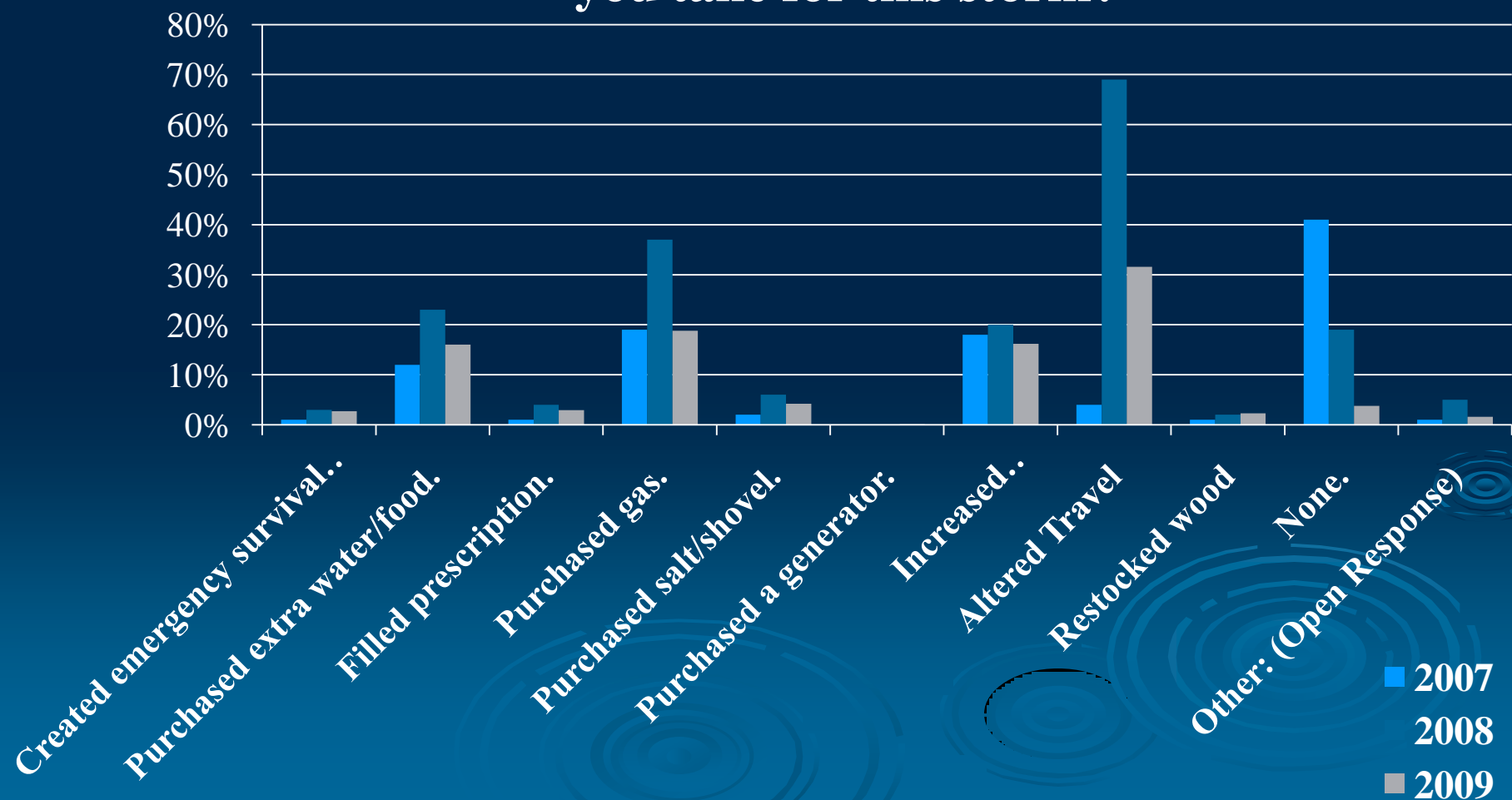


# Survey Responses

*\* Combined responses from all events\**



## 5. Based on the forecast, what special preparations did you take for this storm?



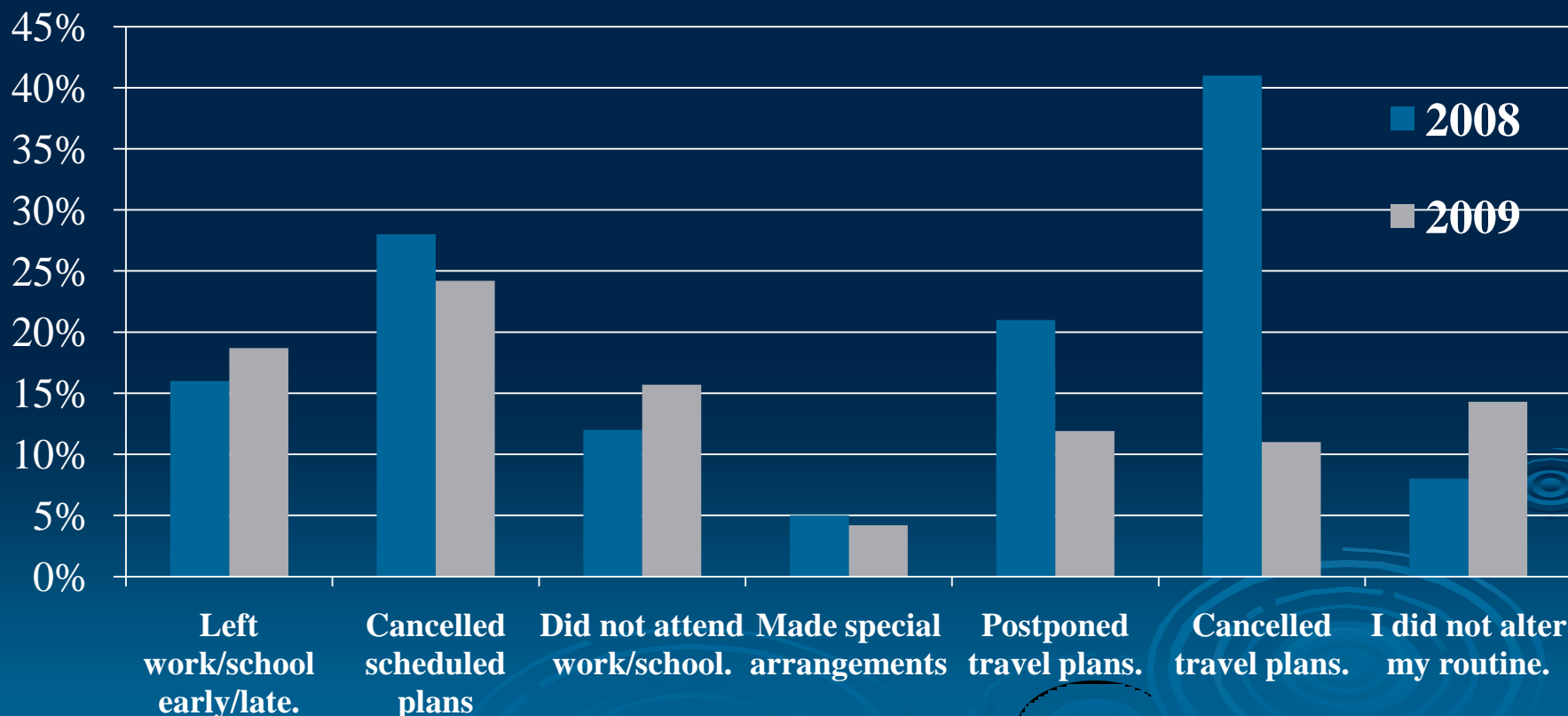


# Survey Responses

*\* Combined responses from all events\**



## 6. How did you alter your daily routine during this storm?





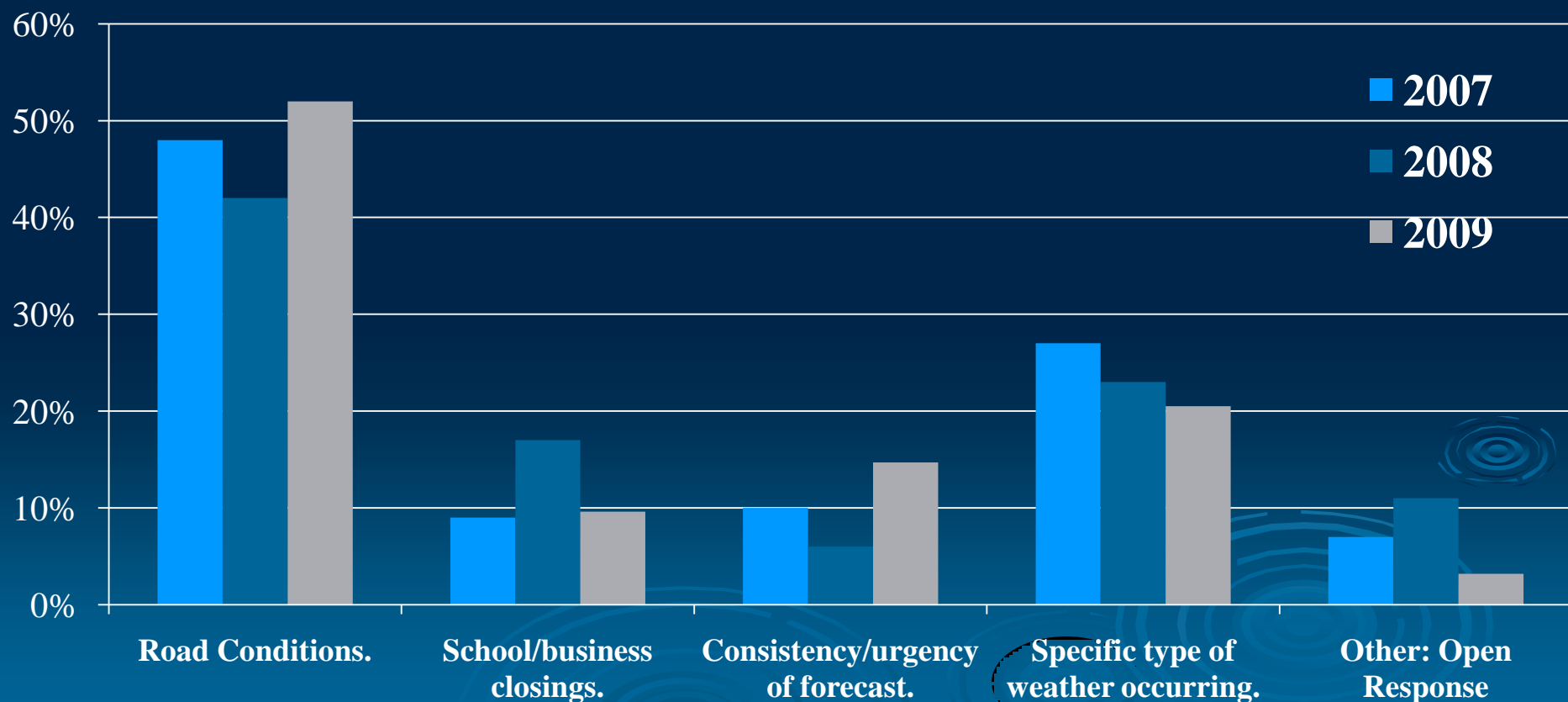


# Survey Responses

*\* Combined responses from all events\**



## 7. If you DID alter your daily routine, what specifically made you do so?



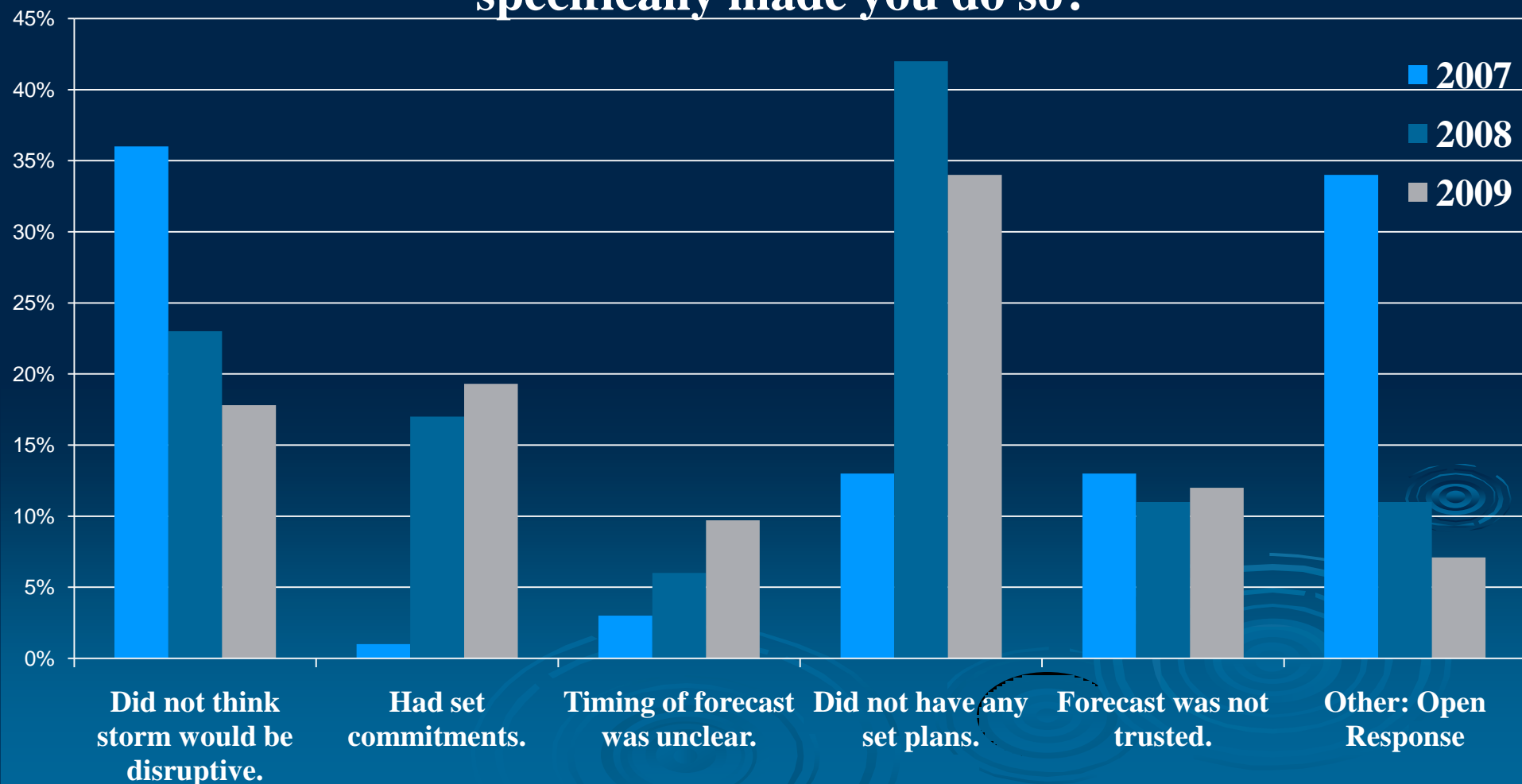


# Survey Responses

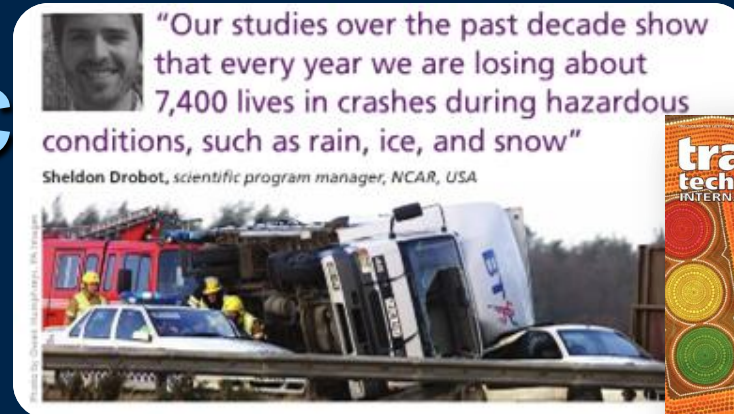
*\* Combined responses from all events\**



## 8. If you DID NOT alter your daily routine, what specifically made you do so?



# Conc



- Road Conditions!
- Respondents react to non-meteorological indicators (school closings, road conditions, etc.)
  - *Snowfall Total do not link to travel conditions*
- Trending forecasts and timing both communicates uncertainty
- People do pay attention to “Warnings”
- However, the type of warning is poorly understood and prompts minimal reaction



# Conclusions Continued

- As event unfolds, media becomes crucial
- Mixed messages from weather community Opens door for confusion and distrust between NWS and Media
- Notable differences in responses between urban/rural locations and various regions of Plains.
- Still widespread bias against the meteorologist







# Post Storm Survey



## Responses & Results

The survey results were broken down by event. Please Refer to the below links for a few of these events.

### View Responses by Event

- [2008 December 14<sup>th</sup>](#)
- [2008 December 19<sup>th</sup>](#)
- [2008 December 20<sup>th</sup>](#)
- [2008 December 30<sup>th</sup>](#)
- [2009 January 3<sup>rd</sup>](#)

[View Responses From Test Season \(Winter 2008\)](#)

Visit the [Northland Winter Storm Archive](#) for event summaries



# Post Storm Survey

Please Refer to the All About the PSS Slideshow for details into the Post Storm Survey.

[http://www.crh.noaa.gov/Image/dlh/slideshows/PSS\\_background.pdf](http://www.crh.noaa.gov/Image/dlh/slideshows/PSS_background.pdf)



# How to get involved?

If you are interested in hosting a link to the Post Storm Survey on your website, please send an email to

[poststormsurvey@gmail.com](mailto:poststormsurvey@gmail.com)



# Thank You!



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